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22a. NAME OF RESPONSIBLE INDIVIDUAL Malloy		22b. TELEPHONE NUMBER (Include Area Code) (202) 767-4931	22c. OFFICE SYMBOL NE

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Final Report for

Air Force Office of Scientific Research (AFOSR) Workshop

On 29 September through 1 October 1987 the University of Dayton conducted a Workshop on "The Physical and Mechanical Properties of Alloys: Semiconductors and Beyond," at the Bergamo Conference Center, Dayton, Ohio. The Workshop was sponsored by the Air Force Office of Scientific Research (AFOSR) and monitored by Kevin J. Malloy, Capt., USAF.

A total of 51 scientists, known for their expertise in the subject area, were invited to attend (see Attachment #1), with 42 attending (see Attachment #2). Of those attending, 17 were reimbursed for their expenses (see Attachment #3).

The University was responsible for mailing the invitations, selecting the conference site, arranging local travel and accommodations, selecting menus, conducting the registration, and making other arrangements necessary to carry out the Workshop. The agenda was arranged by Capt. Kevin Malloy (see Attachment #4).

ATTACHMENT #1
TENTATIVE LIST OF ATTENDEES

Prof. Salah M. Bedair
Department of Electrical and
Computer Engineering
North Carolina State University
Raleigh, NC 27695-7003

(919) 737-2336

Dr. Martha A. Berding
Physical Electronics Laboratory
SRI International
333 Ravenswood Ave.
Menlo Park, CA 94025

(415) 859-4267

Dr. Jozse Bevk
AT&T Bell Laboratories
600 Mountain Ave.
Room 6E-328
Murray Hill, NJ 07974

(201) 582-5913

Dr. Steven Bishop
Code 6870
Naval Research Laboratory
Washington, DC 20375

(202) 767-3693

Dr. Alexander Borshchevsky
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109

(818) 577-

Dr. Edith Bourret
Center for Advanced Materials
Lawrence Berkeley Laboratory
Berkeley, CA 94720

(415) 486-5553

Prof. Rubin Braunstein
Department of Physics
University of California
405 Hilgard Ave.
Los Angeles, CA 90024

(213) 825-1841

Prof. Bruce Bunker
Department of Physics
University of Notre Dame
Notre Dame, IN 46556

(219) 239-7219

Prof. An-Ban Chen
Department of Physics
Auburn University
Auburn, AL 36849

(205) 826-4618

Dr. David R. Clarke
IBM T. J. Watson Research Center
P.O. Box 218
Yorktown Heights, NY 10598

(914) 945-2295

By _____	
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Prof. Bernard Cooper Physics Department West Virginia University Morgantown, WV 26506	(304) 293-3423
Dr. Larry Cooper Office of Naval Research Code 1114 800 N. Quincy St. Arlington, VA 22217	(703) 696-4214
Prof. Gary A. Davis Semiconductor Research Laboratory Box 1127 Washington University St. Louis, MO 63130	(314) 889-6109
Dr. Dennis Dimiduk AFAL/MLLM Wright-Patterson AFB, OH 45433-6533	(513) 255-4402
Prof. John Dow Department of Physics University of Notre Dame Notre Dame, IN 46556	(219) 239-7432
Prof. Katherine T. Faber Ohio State University Department of Ceramic Engineering 2041 College Road Columbus, OH 43210	(614) 422-2960
Dr. Robin Farrow IBM Almaden Research Center K32/801D 650 Harry Road San Jose, CA 95120	(408) 927-2389
Prof. Arthur J. Freeman Northwestern University Department of Physics and Astronomy Evanston, IL 60201	(312) 491-3343
Mr. George A. Graves University of Dayton Research Institute 300 College Park Dayton, OH 45469-0001	(513) 229-4511
Prof. Joseph E. Greene Coordinated Science Laboratory University of Illinois Urbana, IL 61801	(217) 333-0747

Dr. Kenneth Haas Harvard University Division of Applied Sciences Pierce Hall Cambridge, MA 02138	(617) 495-3213
Dr. Kristl Hathaway Office of Naval Research Code 1114 800 N. Quincy Arlington, VA 22217	(703) 696-4214
Prof. John Hirth The Ohio State University Department of Metallurgical Engineering Columbus, OH 43212	(614) 422-0176
Dr. John Hurt National Science Foundation MPC/CEM 1800 G Street, NW Washington, DC 20550	(202) 357-9789
Prof. John Joannopoulos Massachusetts Institute of Technology Department of Physics Cambridge, MA 02139	(617) 253-4806
Dr. Andrew S. Jordan AT&T Bell Laboratories 600 Mountain Ave. Rm. 7B-426 Murray Hill, NJ 07974	(201) 582-3714
Prof. Ryoichi Kikuchi Department of Materials Science University of Washington Seattle, WA 98195	
Prof. Che-Yu Li Bard Hall Department of Materials Science and Engineering Cornell University Ithaca, NY 14850	(607) 255-4349
Prof. Harry Lipsitt Wright State University Mechanical Systems Engineering Department Dayton, OH 45435	(513) 873-2476
Prof. Subhash Mahajan Department of Materials Science Carnegie-Mellon University Pittsburgh, PA 15213	(412) 578-2702

Capt. Kevin J. Malloy AFOSR/NE Bldg. 410 Bolling AFB, DC 20332-6448	(202) 767-4931
Prof. Thomas C. McGill California Institute of Technology MS128-95 Pasadena, CA 91125	(818) 356-4849
Dr. Rodney McKee DOE - Oak Ridge National Lab P.O. Box E Oak Ridge, TN 37831	(615) 574-5144
Dr. William Mitchel AFWAL/MLPO Wright-Patterson AFB, OH 45433	(513) 255-4474
Dr. Peter Morgan Rockwell International Science Center 1049 Camino Dos Rios Thousand Oaks, CA 91360	(805) 373-4273
Dr. John A. Moriarty Lawrence Livermore National Lab University of California Livermore, CA 94550	(415) 422-9964
Dr. Marcel W. Muller Department of Electrical Engineering Washington University St. Louis, MO 63130	(314) 889-6156
Prof. Kathie Newman Department of Physics University of Notre Dame Notre Dame, IN 46556	(219) 239-7182
Prof. Fred H. Pollak Department of Physics Brooklyn College of CUNY Brooklyn, NY 11210	(212) 780-5818
Dr. Alan Rosenstein AFOSR/NE Bolling AFB, DC 20332-6448	(202) 767-4933
Dr. Ivan Schuller Argonne National Laboratory Bldg. 223, Material Science Division Argonne, IL 60439	(312) 972-5469

Dr. Arden Sher
Physical Electronics Lab
SRI International
333 Ravenswood Ave.
Menlo Park, CA 94025

(415) 859-4466

Prof. David A. Stevenson
Materials Science and Engineering - 554Q
Stanford University
Stanford, CA 94305

(415) 723-4251

Prof. Gerald Stringfellow
Department of Materials Science
Engineering
University of Utah
Salt Lake City, UT 84112

(801) 581-8387

Prof. James A. Van Vechten
Department of Electrical and
Computer Engineering
Oregon State University
Corvallis, OR 97331

(503) 754-3617

Prof. V. Vitek
Department of Materials Science
and Engineering
University of Pennsylvania
Philadelphia, PA 19104

Dr. Gerald Witt
AFOSR/NE
Bolling AFB, DC 20332-6448

(202) 767-4931

Dr. Horst R. Wittmann
AFOSR/NE
Bolling AFB, DC 20332-6448

(202) 767-4984

Dr. Don Welford
IBM Thomas J. Watson Research Center
P.O. Box 218
Yorktown Heights, NY 10598

(914) 945-

Dr. David Zamir
NW14-5107
Francis Bitter National Magnet Laboratory
MIT
Cambridge, MA 02139

(617) 253-5586

Dr. Alex Zunger
Solar Energy Research Institute
1617 Cole Rd.
Golden, CO 80401

(303) 231-1172

ATTACHMENT #2

LIST OF WORKSHOP ATTENDEES

Prof. Salah M. Bedair Department of Electrical and Computer Engineering North Carolina State University Raleigh, NC 27695-7911	(919) 737-2336
Dr. Martha A. Berding Physical Electronics Laboratory SRI International, 410-33 333 Ravenswood Ave. Menlo Park, CA 94025	(415) 859-4267
Dr. Alexander Borshchevsky Jet Propulsion Laboratory 4800 Oak Grove Drive - MS 198-220 Pasadena, CA 91109	(818) 354-9031
Dr. Edith Bourret-Courchesne Center for Advanced Materials Lawrence Berkeley Laboratory University of California Mail Stop 70A-3363, 1 Cyclotron Road Berkeley, CA 94720	(415) 486-5553
Prof. Rubin Braunstein Department of Physics University of California 405 Hilgard Ave. Los Angeles, CA 90024	(213) 825-1841
Prof. Bruce Bunker Department of Physics University of Notre Dame Notre Dame, IN 46556	(219) 239-7219
Dr. William E. Carlos Naval Research Laboratory Code 6816 Washington, DC 20375-5000	(202) 767-3357
Prof. An-Ban Chen Department of Physics Auburn University Auburn, AL 36849	(205) 826-4618
Dr. David R. Clarke IBM T. J. Watson Research Center P.O. Box 218 Yorktown Heights, NY 10598	(914) 945-2295

Prof. Bernard Cooper Physics Department West Virginia University Morgantown, WV 26506	(304) 293-3423
Dr. Larry Cooper Office of Naval Research Code 1114 800 N. Quincy St. Arlington, VA 22217	(202) 696-4214
Prof. Gary A. Davis Semiconductor Research Laboratory Box 1127 Washington University St. Louis, MO 63130	(314) 889-6109
Dr. Dennis Dimiduk AFAL/MLLM Wright-Patterson AFB, OH 45433-6533	(513) 255-4402
Prof. John Dow Department of Physics University of Notre Dame Notre Dame, IN 46556	(219) 239-7432
Prof. Katherine T. Faber Ohio State University Department of Ceramic Engineering 2041 College Road Columbus, OH 43210	(614) 292-6725
Ms. Jane Farthing Materials Science and Engineering - 554Q Stanford University Stanford, CA 94305	
Prof. Arthur J. Freeman Northwestern University Department of Physics and Astronomy Evanston, IL 60208	(312) 491-3343
Mr. George A. Graves University of Dayton Research Institute 300 College Park Dayton, OH 45469-0001	(513) 229-4511
Dr. Kenneth Hass Ford Motor Co. Science Lab, Rm. 53020 P.O. Box 2053 Dearborn, MI 48121-2053	(313) 322-0098

Dr. Kristl Hathaway Office of Naval Research Code 1114 800 N. Quincy Arlington, VA 22217	(703) 696-4215
Prof. John Hirth The Ohio State University Department of Metallurgical Engineering Columbus, OH 43212	(614) 292-0176
Prof. John Joannopoulos Massachusetts Institute of Technology Department of Physics Cambridge, MA 02139	(617) 253-4806
Prof. Ryoichi Kikuchi Materials Science Engineering FB10 University of Washington Seattle, WA 98195	(206) 543-2913
Prof. Che-Yu Li Bard Hall Department of Materials Science and Engineering Cornell University Ithaca, NY 14850	(607) 255-4349
Prof. Subhash Mahajan Department of Materials Science Carnegie-Mellon University Pittsburgh, PA 15213	(412) 268-2702
Capt. Kevin J. Malloy AFOSR/NE Bldg. 410 Bolling AFB, DC 20332-6448	(202) 767-4931
Dr. Rodney McKee DOE - Oak Ridge National Lab P.O. Box E Oak Ridge, TN 37831	(615) 574-5144
Dr. William Mitchel AFWAL/MLPO Wright-Patterson AFB, OH 45433-6533	(513) 255-6671

Mr. Pedro Montano
Dept. of Physics
Brooklyn College CUNY
Brooklyn, NY 11210

Dr. Peter Morgan
Rockwell International Science Center
1049 Camino Dos Rios
Thousand Oaks, CA 91360

(805) 373-4273

Dr. Marcel W. Muller
Department of Electrical Engineering
Washington University
St. Louis, MO 63130

(314) 889-6181

Prof. Kathie Newman
Department of Physics
University of Notre Dame
Notre Dame, IN 46556

(219) 239-7182

Prof. Fred H. Pollak
Department of Physics
Brooklyn College of CUNY
Brooklyn, NY 11210

(212) 780-5356

Dr. Alan Rosenstein
AFOSR/NE
Bolling AFB, DC 20332-6448

(202) 767-4933

Dr. Arden Sher
Physical Electronics Lab
SRI International
333 Ravenswood Ave., Bldg. 41042
Menlo Park, CA 94025

(415) 859-4466

Prof. David A. Stevenson
Materials Science and Engineering - 554Q
Stanford University
Stanford, CA 94305

(415) 723-4251

Prof. Gerald Stringfellow
Department of Materials Science
Engineering
University of Utah
Salt Lake City, UT 84112

(801) 581-8387

Mr. Eugene Tarnow
Massachusetts Institute of Technology
Department of Physics
Cambridge, MA 02139

Dr. Charles Tu (201) 582-3714
AT&T Bell Laboratories
600 Mountain Ave.
Rm. 7B-410
Murray Hill, NJ 07974

Prof. V. Vitek (215) 898-7883
Department of Materials Science
and Engineering
University of Pennsylvania
Philadelphia, PA 19104

Dr. David Zamir (617) 253-5586
NW14-5107
Francis Bitter National Magnet Laboratory
MIT
Cambridge, MA 02139

Dr. Alex Zunger (303) 231-1172
Solar Energy Research Institute
1617 Cole Rd.
Golden, CO 80401

ATTACHMENT #3

LIST OF PARTICIPANTS REIMBURSED FOR
EXPENSES INCURRED AT AFOSR WORKSHOP

Dr. Peter Morgan
Rockwell International Science Center
1049 Camino Dos Rios
Thousand Oaks, CA 91360

Prof. John Hirth
Department of Metallurgical Eng
The Ohio State University
116 W. 19th Ave.
Columbus, OH 43212

Prof. Bruce Bunker
Department of Physics
University of Notre Dame
Notre Dame, IN 46556

Prof. Subhash Mahajan
Department of Materials Science
Carnegie-Mellon University
Pittsburgh, PA 15213

Dr. Alexander Borshchevsky
Jet Propulsion Laboratory
MS 198-220
4800 Oak Grove Dr.
Pasadena, CA 91109

Dr. Marcel W. Muller
Electrical Engineering Dept.
Campus Box 1127
Washington University
St. Louis, MO 63130

Dr. Edith Bourret
MS 70A-3307
Lawrence Berkeley Laboratory
1 Cyclotron Rd.
Berkeley, CA 94720

Prof. Kathie E. Newman
Physics Dept.
University of Notre Dame
Notre Dame, IN 46556

Dr. Dennis Dimiduk
AFWAL/MLLM
Wright-Patterson AFB, OH 45433-6533

Prof. Fred H. Pollak
c/o Physics Dept.
Brooklyn College
Brooklyn, NY 11210

Dr. David R. Clarke
IBM T.J. Watson Res. Ctr.
P.O. Box 218
Yorktown Heights, NY 10598

Dr. Arden Sher
SRI International
333 Ravenswood Ave.
Bldg. 410-42
Menlo Park, CA 94025

Prof. Arthur J. Freeman
Northwestern University
Department of Physics and Astronomy
Evanston, IL 60201

Dr. Alex Zunger
Solar Energy Research Institute
1617 Cole Road
Golden, CO 80401

Dr. Kenneth Haas
Ford Motor Company
Rm 53020 Science Laboratory
P.O. Box 2053
Dearborn, MI 48121-2053

G.B. Stringfellow
University of Utah
Salt Lake City, UT 84112

Dr. David Zamir
Solid State Physics Dept.
Soreq Research Center
Yavne, ISRAEL 70600

ATTACHMENT #4

WORKSHOP ON THE PHYSICAL AND MECHANICAL PROPERTIES OF ALLOYS:
SEMICONDUCTORS AND BEYOND
29 September - 1 October 1987
Dayton, Ohio

AGENDA

Tuesday, 29 September 1987 Bergamo Roncalli Conference Center

8:00 - 8:15 K. J. Malloy Introduction

I. Theoretical Approaches to Semiconductor Alloy Structure (J. Dow)

8:15 - 9:00 A. Sher Overview

9:00 - 9:50 A. Zunger Phase Diagrams and Stability of
Semiconductor and Metal Alloys

10:10 - 10:30 BREAK

10:30 - 11:15 K. Newman Ordering Transitions in Alloys

11:15 - 11:45 A.-B. Chen Local Correlations in
Disordered Alloys

12:00 - 1:30 LUNCH

II. Experimental Studies of Semiconductor Alloy Structure (A. Zunger)

1:30 - 2:00 B. Bunker EXAFS Studies of Semiconductors

2:00 - 2:20 W. Carlos NMR Studies of III-V Alloys

2:20 - 2:40 D. Zamir NMR of Local Structure and
Bonding in Semiconductor Alloys

2:45 - 3:15 BREAK

3:15 - 4:00 F. Pollak Raman Spectroscopy of
Semiconductor Alloys

4:00 - 4:45 S. Mahajan The Microstructure of Phase Sep-
aration in Semiconductor Alloys

4:45 - 5:30 G. Stringfellow OMVPE Growth and Ordering
in III-V Alloys

6:00 - 7:00 The Search for Order in Ethanol-Water Solutions

7:00 - 8:45 DINNER

Wednesday, 30 September 1987

III. Thin Film Phenomena (D. Stevenson)

8:30 - 9:15 J. Hirth Dislocations in Multilayers

9:15 - 10:00 S. Bedair Dislocations in Strained
Layer Superlattices

10:00 - 10:30	BREAK	
10:30 - 11:00	C.-Y. Li	Micromechanical Testing of Thin Films
11:00 - 11:30	R. McKee	Ti-O / Al ₂ O ₃ Multilayers
11:45 - 1:00	LUNCH	
IV. Related Issues in Other Material Systems (A. Rosenstein)		
1:00 - 1:45	D. Dimiduk	Intermetallics
1:45 - 2:30	A. Freeman	Structural Properties of Intermetallics and Semiconductors
3:00 - 5:15	BREAK	
5:15 - 7:15	DINNER	
7:30 - 8:15	J. Joannopoulos	Grain Boundaries
8:15 - 8:45	B. Cooper	Ti-C Ceramics
8:45 - 10:00	Liquid Solution Inspired Breakthroughs: Order Out of Chaos	

Thursday, 1 October 1987

V. Mechanical Properties of Semiconductors (A. Sher)

8:00 - 8:15	A. Borchevsky	Historical Perspective
8:15 - 9:00	M. Berding	Hardness and Yield Stress
9:00 - 9:30	D. Clarke	Cracks in Si
9:30 - 10:00	BREAK	
10:00 - 10:15	E. Bourett	Mechanical Properties of GaAs
10:15 - 11:00	K. Faber	High T deformation of GaAs:In
11:00 - 11:40	D. Stevenson	Growth and Hardness of Semiconductor Alloys
11:45 - 1:00	LUNCH	

VI. DISCUSSION / SUMMARY (K. Malloy)

1:00 - 3:00	Last Chance
3:00 -	Departure